wristband the nurse scans the barcode on the medicine labels of cytostatic drugs. If the dose being scanned corresponds to a pharmacist-approved medicines order and the patient is due for this dose, administration is automatically documented. However, if the dose does not correspond to a valid order, the application issues a warning. Every action performed with PDAs is recorded in the database.

**Results** During the first year since its introduction, this system has been used in 709 oncology-haematological and rheumatologic patients (24.8% haematology, 49.1% oncology, 22.6% rheumatology patients), 3995 medicine orders have been scanned (22.2% haematology, 60.2% oncology, 17.6% rheumatology) and 11435 doses identified (12.3% haematology, 80.8% oncology, 6.9% rheumatology).

99.7% of the doses identified with this system were administered while the remaining 0.5% were not administered to patients due to the occurrence of several adverse reactions.

Variables validated by the scan were: patient, drug administration sequence, start and end times. Possible errors detected: incorrect order of administration, drug already administered and drug selected that does not belong to the scanned patient. During the study period we detected 2 cases of selected drug that did not belong to scanned patient. The system issued a warning that prevented the wrong drug being administered to the patient, probably the worst error with cytostatic drugs administration.

**Conclusions** The implementation of barcode medicines verification technology embedded in an eMAR in a day hospital acted as an additional safety net in medicines administration and patient safety. This system also improved treatment efficiency and achieved greater interdisciplinary collaboration.

No conflict of interest.

**Abstract**

**Background** Medicines errors may result in patient harm. Especially in intensive care patients, adverse drug events caused by medicines errors are common. Interventions by hospital pharmacists have been shown to reduce adverse drug events and costs in intensive care units (ICUs).

**Purpose** To evaluate the effect of active participation of a hospital pharmacist in the ICU on medicines errors and hospital costs.

**Materials and Methods** A three-month pilot study was performed at the adult 32-bed ICU of the academic hospital Erasmus MC. Four hospital pharmacists were trained in specific aspects and protocols of intensive care. From July to September 2011, each patient’s medicines profile was reviewed weekly using a standardised written form and a pharmacist was present on rounds. Potential medicines errors requiring intervention were documented and discussed during the round. In addition, the amount of time spent performing clinical activities at the ICU was recorded.

**Results** 267 medicines reviews were performed for a total of 169 patients in 51 rounds. 288 interventions for a total of 120 drugs were made. About 60% of the medicines reviews resulted in at least one intervention with an acceptance rate of 56%. Non-acceptance was mainly due to a lack of information at the time the medicines review was performed. 30% of interventions were relating to unnecessary drug use, 24% to drug omission and 17% to a wrong dose. Time spent on medicines reviews and visiting rounds was 7.3 hour per week. Based on these results we developed a business case for structural participation of a hospital pharmacist at the ICU.

**Conclusions** Participation of a hospital pharmacist in ICU rounds improves medicines safety and can be cost-effective. The pilot study and business case have resulted in the appointment of 0.5 FTE hospital pharmacist in the ICU.

No conflict of interest.
Materials and Methods  Medical data of adult (age range: 18 to 85 years) hypertensive patients attending the hypertension clinic of Hospital Centre of Cova da Beira, Covilhã, Portugal, from March to August 2012, were prospectively obtained from medical records and analysed. Demographic variables, clinical data and BP values of hypertensive patients included in the study, as well as prescribing metrics, were examined on a descriptive basis and expressed as the mean±SD, frequency and percentages. Student’s test and Mann-Whitney rank sum test were used to compare continuous variables and the χ2 test and Fisher exact probability test were used to test for differences between variables in different categories.

Results  In all, 47% of hypertensive patients (n = 44) had their BP controlled according to international guidelines. About 54% of patients with a target BP < 140/90 mmHg (n = 74) were controlled, whereas in patients with diabetes and/or chronic kidney disease (n = 20) the corresponding figure was only 20% (P = 0.007). The angiotensin II-receptor antagonists were the most prescribed drugs (57.5%), followed by calcium channel blockers (55.3%) and β-blockers (42.5%). About 62.4% hypertensive patients with comorbid diabetes were treated with an angiotensin-converting enzyme inhibitor or an angiotensin II-receptor antagonist.

Conclusions  Many hypertensive patients prescribed antihypertensive treatment fail to achieve BP control in clinical practise; this control being worse among patients with diabetes or chronic kidney disease. As prescribing patterns seem to conform to international guidelines, further research is needed to identify the causes of poor BP control.

No conflict of interest.

Abstract GRP-035 Table 1

<table>
<thead>
<tr>
<th>Protease inhibitor</th>
<th>No. of patients</th>
<th>Anaemia</th>
<th>Neutropenia</th>
<th>Thrombocytopenia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boceprevir</td>
<td>20</td>
<td>17 (85)</td>
<td>14 (70)</td>
<td>15 (75)</td>
</tr>
<tr>
<td>Telaprevir</td>
<td>16</td>
<td>11 (69)</td>
<td>6 (38)</td>
<td>13 (81)</td>
</tr>
</tbody>
</table>

No conflict of interest.

GRP-036 CARDIOVASCULAR RISK IN HIV PATIENTS AND HCV CO-INFECTED PATIENTS TREATED WITH LOPINAVIR/RITONAVIR OR ABACAVIR

doi:10.1136/ehjpharm-2013-000276.036

C Medarde Caballero, C Fernandez Lopez, S Ruiz Fuentes, S Belda Riusarazo, J Cabeza Barrera, C Gomez Peña. Hospital San Cecilio, Hospital Pharmacy, Granada, Spain

Background  An estimate of the risk of suffering a cardiovascular event guides the development of preventive strategies and treatment optimization. In HIV and co-infected HIV/HCV patients the state of chronic inflammation, altered endothelial function, a higher prevalence of smoking and antiretroviral treatment toxicity tend to increase the risk compared to the non-infected population.

Purpose  To estimate the cardiovascular risk of HIV infected patients, HCV/HIV patients, and those treated with lopinavir/ritonavir or abacavir in a hospital. To describe the population and their main risk factors.

Materials and Methods  This was a 6-month retrospective and observational study. Demographic and clinical data, such as lipid profile, immunological state or current treatments, were collected. Three different tools were used to estimate the 10-year cardiovascular risk: Framingham, SCORE and Regicor, in order to minimise the possible under-estimation for the infected Spanish population.

Results  56 patients matched the inclusion criteria. The average age was 48 (78.6% men). All patients had a good immunological state. The first modifiable risk factor was smoking (66.1%) dyslipidaemia the second (50%) and hypertension the third (37.5%). The co-infected population presented the main risk factors in higher percentages than the mono-infected group (81.3% smoked and 90% had dyslipidaemia). The number of patients identified as having a high cardiovascular risk with the estimation methods used was low. Framingham was the tool that classified more patients into this group (18.5% versus 12.75% SCORE and 1.85% Regicor).

Conclusions  The results of this study, which accorded with previous publications, show the high prevalence of cardiovascular risk factors in this population, especially smoking and dyslipidaemia, showing the importance of identifying high-risk patients in order to prevent cardiovascular events. It also evidences the lack of a specific way of identifying these patients, which would help direct preventative efforts.

No conflict of interest.

GRP-037 CATHETER RELATED INFECTION TREATMENT PROTOCOL COMPLIANCE IN THE INTENSIVE CARE UNIT

doi:10.1136/ehjpharm-2013-000276.037

1B Boyeras Vallespí, O Delgado Sánchez, MA Colomer Ferrà, LA Rayo Ordóñez, MA Molina Povedano, Hospital Universitari Son Espases, Pharmacy, Palma de Mallorca, Spain; 2Hospital Universitari Son Espases, Intensive Care Unit, Palma de Mallorca, Spain

The results of this study, which accorded with previous publications, show the high prevalence of cardiovascular risk factors in this population, especially smoking and dyslipidaemia, showing the importance of identifying high-risk patients in order to prevent cardiovascular events. It also evidences the lack of a specific way of identifying these patients, which would help direct preventative efforts.

No conflict of interest.